

Of Mud and Men: Architecture as a Political Act **By Stephanie Miller (April 2003)**

*Get your conscience out of the deep freeze, and use it.
Look closely at your prejudices and question them.
Discourage extravagance and snobbery.*

Are these the maxims of a political activist? Social reformer? How about an architect? Wearing all three hats, Laurie Baker has committed his life to not only living by these principles, but also to designing and building schools, civic buildings, leprosy centers, chapels and over 1,000 private homes for the poor in India. Using simple local materials, Baker has been inspired to blend the best elements of Indian vernacular architecture with Western technology to create buildings that live lightly on the land while respecting and reflecting their immediate environment.

Born to a Quaker family in England in 1917, Laurie Baker's architectural career began as a student at Birmingham University. However, his blossoming professional practice, only a year old, was cut short when World War II erupted in Europe. As a conscientious objector, Baker enlisted in the Friends' Ambulance Unit and served as a medical technician in China and Burma.

Returning to England in 1944, Baker was delayed in Bombay for three months waiting for a steamship. Through Quaker associates, he was introduced to Mohandas Gandhi, who expressed concern over the state of Indian architecture and asserted that much good could be done in rural India by committed architects. Baker returned to England briefly and then, taking Gandhi's words to heart, returned to India to see how his skills might best serve the communities of Uttar Pradesh in northern India.

Baker met and married an Indian medical doctor, Elizabeth Jacob, and the two of them worked for years in the Himalayas building and operating schools and hospitals, working with lepers and the poor.

In 1963, Baker and his wife moved to the southern state of Kerala, Elizabeth's homeland, establishing themselves in the city of Trivandrum in 1970. Working with local materials and exploring indigenous architectural traditions, Baker's reputation began to grow.

Baker's Basics

Laurie Baker has been committed to not only learning from and using traditional Indian architectural techniques and technology, but also

building with traditional Indian materials. Gandhi once exhorted builders to only use materials gathered within five miles of a construction site. And though this Gandhian ideal is not always possible, Baker has promoted the use of brick, lime, tile, palm thatch, stone and local granite in place of 'modern' materials like steel, glass and concrete.

You can't get more sustainable or renewable a resource than mud, and Baker is its champion. Approximately 58 percent of all buildings in India today are made of mud brick, some as many as 50 to 100 years old. Mud is gathered either at the construction site or very nearby, formed into bricks and dried in the sun. It is readily available and can be made by people with limited initial training—all resulting in projects that can be built at a fraction of the cost of those using concrete and steel. Baker is especially fond of mud's total recyclability: simply add water and reuse it.

Baker has truly adopted his motto to "make low-costery a habit and a way of life" by reusing everything, from brick to glass bottles, as building materials. "One of the things I'm noted to be crazy for is that I use old colored bottles set in cement—they give a nice light," comments Baker. His own home, made entirely of mud brick, is a model of his recycling ethos; including timber salvaged from an old boat jetty. Other signature elements of his design include the use of circular walls, which use far less brick than rectangular walls. In addition, when he does use concrete for a roof, he embeds chipped or broken terra cotta roofing tiles into the mixture. These tiles, which normally would be thrown away, contribute to the strength of the roof, allow less of the expensive concrete to be used, and reduce the structural load of the building.

Baker stands by some basic tenets of his work, primarily his belief in "avoiding all unnecessary items in all planning and design, materials and construction, and upgrading traditional local materials to plan for current day usage for all classes." The use of such materials bolsters a local and regional economy and reduces waste from fossil fuels used to transport materials from far-flung origins. Local materials and techniques have also withstood the test of time and climate, offering the best and most cost-effective solution to the problems of extreme heat, monsoon rains, earthquakes and staggering levels of homelessness and poverty in Baker's adopted country.

Many new buildings in India are constructed of concrete or cinder block and are topped with flat, tar-covered roofs. These western-style constructions serve primarily to absorb and trap heat, practically baking their inhabitants. Baker prefers to utilize the pitched roof

popular in traditional Indian architecture, with the addition of a 'wind scoop' on the roof. Hot air rises inside the house and is drawn up to the roof line and vented out of the triangular 'chimneys' formed in the roof.

His philosophy of design also highlights the natural beauty and dignity in the humblest of materials. Baker believes that "most materials have their own special characteristics and if used honestly and simply, they contribute to the 'looks' of the building merely from their colour, their texture and the patterns formed by joining them together. There is no need to cover them over with costly finishes. Let a brick wall look like a brick wall and a stone wall look like a stone wall." Sensitive to the visual impact of the structure on its surroundings, terra cotta roof tiles and red brick walls also stain and age over time, blending harmoniously with the vegetation around them.

Understanding that "no two families are alike, so why should their habitation be alike?" Baker believes in creating dwellings that respect the earth and the homeowner equally. Case in point: the Menon House in Trivandrum was built on the site of the owner's previous residence. The old house was torn down and Baker 'harvested' as much of the raw building material as possible. Brick, timber, tiles, columns and even the gateway, found their way back into the new design.

Philosophy in Practice

Leslie Baker's 'masterpiece,' the Centre for Development Studies in Kerala, is a ten-acre campus of buildings that houses a research institute and a graduate school dedicated to utilizing the study of economics to help the poor. The red brick structures undulate and swirl, with circular walls and few sharp corners. Baker sends a clear message about the mission of the institution by granting visitors unfettered access; the main building has a wide, inviting entrance but no front door.

Located only 600 miles from the equator, Kerala can be a stifling environment. Baker designed the buildings at the Centre to practically cool themselves. He renders jalis, a perforated wooden screen found in traditional Indian architecture, in brick; the open grillwork allows cool breezes to waft into the interior while filtering harsh, direct sunlight. Some buildings include a series of small courtyards containing shallow pools in the center, whose evaporation helps cool the air. Paying close attention to the existing site as he began to design the project, Baker left as many coconut palm trees in place as possible to cast cooling shade onto the campus.

This sensitivity to the building site not only helps maintain natural foliage, but also minimizes other changes that must be made. In evaluating the campus for the Centre, Baker planned roads along the lower, naturally depressed areas, necessitating far less excavation, while footpaths were routed along naturally occurring elevated areas; following the natural topography helps to limit erosion and despoilment of the environment.

In 1985, along with then Keralan Chief Minister C. Achutha Menon, Baker founded COSTFORD (Centre for Science and Technology for Rural Development). This non-profit organization draws on its voluntary staff of scientists, technicians, educators, social workers, and designers to develop civic and residential structures. To date, the group has constructed well over 250 units of housing for the poor.

Baker shares his knowledge and enthusiasm freely. He has authored numerous 'how to' pamphlets with titles like, "Laurie Baker's Mud," "Cost Reduction for Primary School Buildings," and "Rural Community Buildings," which are intended to educate and empower architects and lay people alike to adopt economical and environmentally responsible practices. A generation of young architects has also been inspired by Baker's life, including many who work with COSTFORD. True to the name, Inspiration, a private consulting firm, claims Baker's philosophy as its guiding force. These architects, engineers and planners consult with government and private clients to design and build projects with eco-friendly technology.

In an era of superstar architects designing museums more famous than the artwork they display and skyscrapers as testaments to corporate power, Baker's philosophy is a welcome change. "My feeling is that you're not trying to put up a monument which will be remembered as 'Laurie Baker's Building,' but Mohan Singh's house where he can live happily with his family."

Stephanie Miller *lives in Brooklyn and is cultivating her interests in environmental advocacy.*